

REMARKS

At the outset, the Examiner is thanked for the consideration of the pending application. The Office Action dated August 31, 2009 has been received and its contents carefully reviewed.

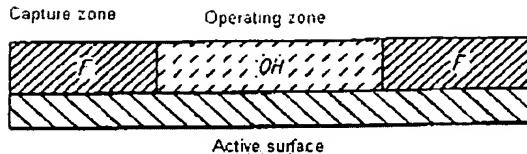
The Examiner is also thanked for the in-person interview with Applicants' representative on December 8, 2009. The differences between the cited prior art references and claim 1 and proposed potential claim amendment were discussed. No agreement was reached.

Claims 1-8, 10, 15-22, 26-28, 30, 32, 33 and 44 are hereby amended. Support for the amendment can be found, for example, at Specification, page 13, lines 4-16, and Figure 9. No new matter has been added. Accordingly, claims 1-46 are currently pending. Reconsideration of the pending claims are respectfully requested.

The Office Action rejects claims 1, 4, 10-12, 15, 17, 19, 20, 28, 29, and 32 under 35 U.S.C. §102(b) as being anticipated by U.S. Patent No. 6,210,894 to Brennan (*Brennan*). Applicants respectfully traverse the rejection.

To anticipate a claimed invention the prior art must disclose all the elements of the claim. *Brennan* fails to disclose all the elements of claims 1, 4, 10-12, 15, 17, 19, 20, 28, 29, and 32, and thus cannot anticipate these claims.

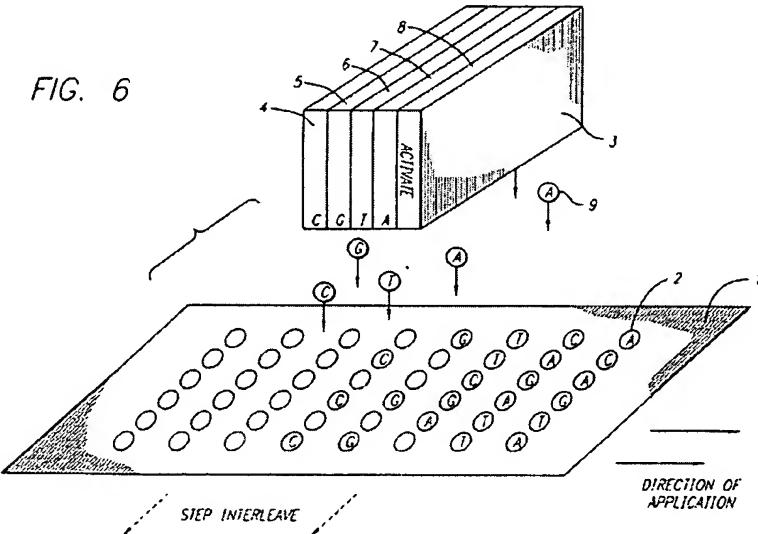
Amended claim 1 recites, “a plurality of capture zones for the localized capture of a drop of said liquid of interest formed on said active surface, the capture zones being placed apart on the active surface, a plurality of operating zones formed on said active surface and separate from the capture zones arranged so that said capture zones surround the operating zones continuously or discontinuously, in such a way that the operating zones are at least partially covered by the drop of the liquid of interest when said drop is captured by said capture zones.” *Brennan* fails to teach at least these elements of claim 1. The Office Action states “*Brennan* teaches a device having structures analogous to the claimed active surface, capture zone, and the



operating zone as shown below.

" Office Action,

page 13. The Office appears to read the hydrophobic fluoroalkylsilane site (F) on the capture zone and the derivatized hydrophilic binding site (OH) on the operating zone. As shown in Figure 6 of *Brennan*, the derivatized hydrophilic binding sites (OH) are the individual dots on the array plate, and the hydrophobic fluoroalkylsilane site (F) is the remaining area on the array plate. In other words, the hydrophobic fluoroalkylsilane site (F) is a continuous area on the array plate. Therefore, the hydrophobic fluoroalkylsilane site (F) does not read on the plurality of capture zones being placed apart on the active surface of claim 1.



Because it fails to disclose at least these elements of claim 1, *Brennan* cannot anticipate claim 1 or any claims dependent on claim 1. Claim 1 and its dependent claims 4, 10-12, 15, 17, 19, 20, 28, 29, and 32 are allowable over *Brennan*. Applicants respectfully request withdrawal of this rejection.

The Office Action also rejects claims 2, 3, 5, and 16 under 35 U.S.C. §103(a) as being obvious over *Brennan* in view of U.S. Patent No. 6,565,813 to *Garyantes* (*Garyantes*). Applicants respectfully traverse the rejection.

In order to establish *prima facie* obviousness of the claimed invention, all the elements must be taught or suggested by the prior art. The combined teaching of *Brennan* and *Garyantes* fails to teach or suggest every element of claims 2, 3, 5, and 16, and thus, cannot render these claims obvious.

Claims 2, 3, 5, and 16 variously depend on claim 1 and thus incorporate all the elements of claim 1. Amended claim 1 recites “a plurality of capture zones for the localized capture of a drop of said liquid of interest formed on said active surface, the capture zones being placed apart on the active surface, a plurality of operating zones formed on said active surface and separate from the capture zones arranged so that said capture zones surround the operating zones continuously or discontinuously, in such a way that the operating zones are at least partially covered by the drop of the liquid of interest when said drop is captured by said capture zones.” As discussed above, *Brennan* fails to teach at least these element of claim 1. *Garyantes* does not cure the deficiency of *Brennan*. The Office Action cites *Garyantes* for disclosing a device comprising a plurality of wells having an annular circular shape and surrounding several hydrophilic zones with a hydrophobic zone. *Office Action*, page 4. *Garyantes* also fails to teach or suggest the above-recited elements of claim 1. Accordingly, claim 1 is also patentable over the combined teaching of *Brennan* and *Garyantes*. Being dependent on claim 1, claims 2, 3, 5 and 16 are also patentable over the combined teaching of *Brennan* and *Garyantes* for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action further rejects claims 6, 8, 9, 13, 14, 18, 21, 22, and 25 under 35 U.S.C. §103(a) as being obvious over *Brennan* in view of U.S. Patent No. 6,017,696 to *Heller* (*Heller*). Applicants respectfully traverse the rejection.

Claims 6, 8, 9, 13, 14, 18, 21, 22, and 25 variously depend on claim 1, and incorporate all the elements of claim 1. As discussed above, *Brennan* fails to teach or suggest the above-recited elements of claim 1, “a plurality of capture zones for the localized capture of a

drop of said liquid of interest formed on said active surface, the capture zones being placed apart on the active surface, a plurality of operating zones formed on said active surface and separate from the capture zones arranged so that said capture zones surround the operating zones continuously or discontinuously, in such a way that the operating zones are at least partially covered by the drop of the liquid of interest when said drop is captured by said capture zones.” *Heller* also does not cure the deficiency of *Brennan* with respect to claim 1. The Office Action cites *Heller* for disclosing placing electrodes in microlocation zones to control electrophoretic transport of molecules in a sample liquid. *Office Action*, page 6. *Heller* also fails to teach or suggest the above-recited elements of claim 1. Accordingly, the combined teachings of *Brennan* and *Heller* cannot render claim 1 obvious. Dependent claims 6, 8, 9, 13, 14, 18, 21, 22, and 25 are patentable over the combined teaching of *Brennan* and *Heller* for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action also rejects claims 23 and 24 under 35 U.S.C. §103(a) as being obvious over *Brennan* in view of *Heller*, and further in view of U.S. Patent No. 5,440,025 to Marx et al. (*Marx*). Applicants respectfully traverse the rejection.

Claims 23 and 24 variously depend on claim 1 and thus incorporate all the elements of claim 1. As discussed above, the combined teaching of *Brennan* and *Heller* fails to teach or suggest the above-recited elements of claim 1, “a plurality of capture zones for the localized capture of a drop of said liquid of interest formed on said active surface, the capture zones being placed apart on the active surface, a plurality of operating zones formed on said active surface and separate from the capture zones arranged so that said capture zones surround the operating zones continuously or discontinuously, in such a way that the operating zones are at least partially covered by the drop of the liquid of interest when said drop is captured by said capture zones.” *Marx* does not cure the deficiency of *Brennan* and *Heller* with respect to claim 1. The Office Action cites *Marx* only for disclosing extracting a nucleic acid with an electrically conductive polymer and polypyrrole as the electrically conductive polymer. *Office Action*, page 9. Like *Brennan* and *Heller*, *Marx* also fails to teach or suggest the above-recited element of claim 1. Accordingly, even in further combination with *Marx* the combined teachings of *Brennan* and *Heller* cannot render claim 1 obvious. Claims 23 and 24 are thus also patentable

over the combined teaching of *Brennan*, *Heller*, and *Marx* for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action rejects claims 30-35, 38, 42, and 45 under 35 U.S.C. §103(a) as being obvious over *Brennan*. Applicants respectfully traverse the rejection.

Like claim 1, amended claim 30 recites, “a plurality of capture zones for the localized capture of a drop of said liquid of interest formed on said active surface, the capture zones being placed apart on the active surface, a plurality of operating zones formed on said active surface and separate from the capture zones arranged so that said capture zones surround the operating zones continuously or discontinuously, in such a way that the operating zones are at least partially covered by the drop of the liquid of interest when said drop is captured by said capture zones.” As discussed above, *Brennan* fails to teach or suggest these elements of claim 30. Because *Brennan* does not teach or suggest all the elements of claims 1 and 30, it cannot render these claims obvious. Accordingly, claims 1 and 30 are patentable over *Brennan*. Claims 31-35, 38, 42, and 45 variously depend from claims 1 and 30, and thus, are also patentable over *Brennan* for at least the same reasons as claims 1 and 30. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action rejects claim 36 under 35 U.S.C. §103(a) as being obvious over *Brennan* in view of U.S. Patent No. 5,624,815 to Grant et al. (*Grant*). Applicants respectfully traverse the rejection.

Claim 36 indirectly depends on claim 1. As discussed above, *Brennan* fails to teach or suggest the above-recited elements of claim 1, namely, “a plurality of capture zones for the localized capture of a drop of said liquid of interest formed on said active surface, the capture zones being placed apart on the active surface, a plurality of operating zones formed on said active surface and separate from the capture zones arranged so that said capture zones surround the operating zones continuously or discontinuously, in such a way that the operating zones are at least partially covered by the drop of the liquid of interest when said drop is captured by said capture zones.” *Grant* does not cure the deficiency of *Brennan* with respect to claim 1. The Office Action cites *Grant* for disclosing utilizing a suction pump for liquid withdrawal in order

to efficiently remove excess liquid. *Office Action*, page 11. Notably, *Grant* also fails to teach or suggest the above-recited elements of claim 1. Accordingly, claim 1 is patentable over the combined teaching of *Brennan* and *Grant*. Claim 36 is therefore also patentable over the combined teaching of *Brennan* and *Grant* for at least the same reasons as claim 1. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action rejects claims 39-41 and 46 under 35 U.S.C. §103(a) as being obvious over *Brennan* in view of U.S. Patent No. 5,545,531 to Rava et al. (*Rava*). Applicants respectfully traverse the rejection.

Claims 39-41 and 46 variously depend on claims 1 and 30. As discussed above, *Brennan* fails to teach or suggest the above-recited elements of claims 1 and 30. *Rava* does not cure the deficiency of *Brennan* with respect to claims 1 and 30. The Office Action cites *Rava* for disclosing forming a multiple biological chips wherein probes are exposed on the surface of a substrate in order to bind analyte in a liquid sample. *Office Action*, page 12. Like the other references discussed above, *Rava* also fails to teach or suggest the above-recited elements of claims 1 and 30. Accordingly, claim 1 is also patentable over the combined teaching of *Brennan* and *Rava*. Thus, claims 39-41 and 46 are also patentable over the combined teaching of *Brennan* and *Rava* for at least the same reasons as claims 1 and 30. Applicants, therefore, respectfully request withdrawal of the rejection.

The Office Action rejects claims 42-44 under 35 U.S.C. §103(a) as being obvious over *Brennan*.

Claim 42 depends on claim 1 and claims 43-44 depend on claim 30. As discussed above, *Brennan* fails to teach or suggest the above-recited elements of claims 1 and 30. Accordingly, claims 1 and 30 and their dependent claims 42-44 are patentable over *Brennan*. Applicants, therefore, respectfully request withdrawal of the rejection.

The application is in condition for allowance and early, favorable action is respectfully solicited. If for any reason the Examiner finds the application other than in condition for allowance, the Examiner is requested to call the undersigned attorney at (202) 496-

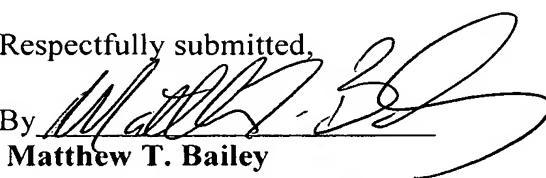
7500 to discuss the steps necessary for placing the application in condition for allowance. All correspondence should continue to be sent to the below-listed address.

If these papers are not considered timely filed by the Patent and Trademark Office, then a petition is hereby made under 37 C.F.R. §1.136, and any additional fees required under 37 C.F.R. §1.136 for any necessary extension of time, or any other fees required to complete the filing of this response, may be charged to Deposit Account No. 50-0911. Please credit any overpayment to deposit Account No. 50-0911.

Dated: January 29, 2010

Respectfully submitted,

By



Matthew T. Bailey

Registration No.: 33,829

MCKENNA LONG & ALDRIDGE LLP

1900 K Street, N.W.

Washington, DC 20006

(202) 496-7500

Attorneys for Applicant